PHARMACOLOGY BIOCHEMISTRY AND BEHAVIOR

VOLUME 44, 1993
SUBJECT AND AUTHOR INDEX

Pergamon Press
New York • Oxford • Seoul • Tokyo

PHARMACOLOGY BIOCHEMISTRY AND BEHAVIOR

Editor-in-Chief

MATTHEW J. WAYNER

Division of Life Sciences, The University of Texas at San Antonio, San Antonio, TX 78285

Editorial Advisory Board

ROBERT L. BALSTER, Virginia Commonwealth University, Richmond, VA
BERNARD BEER, Medical Research Division of American Cyanamid, Pearl River, NY
ROBERT J. BLANCHARD, University of Hawaii, Honolulu, HI
ALLAN C. COLLINS, University of Colorado at Boulder, Boulder, CO
DONALD V. COSCINA, Clark Institute of Psychiatry, Toronto, Ontario, Canada
JACQUELINE N. CRAWLEY, Clinical Neuroscience Branch, NIMH, Bethesda, MD
ADRIAN J. DUNN, Louisiana State University, Shreveport, LA
BURR EICHELMAN, Temple University, Philadelphia, PA
JOHN L. FALK, Rutgers University, New Brunswick, NJ
SANDRA E. FILE, Guys Hospital Medical School, London, England
WILLIAM J. FREED, National Institute of Mental Health, Washington, DC
RICHARD A. GLENNON, Virginia Commonwealth University, Richmond, VA
A. J. GOUDIE, University of Liverpool, Liverpool, England
F. G. GRAEFF, Universidad de São Paulo, São Paulo, Brazil
M. R. C. GREENWOOD, University of California at Davis, Davis, CA
ROLAND R. GRIFFITHS, The Johns Hopkins University School of Medicine, Baltimore, MD
J. HANO, Polish Academy of Sciences, Krakow, Poland
STEPHEN G. HOLTZMAN, Emory University School of Medicine, Atlanta, GA
AKIRA HORITA, University of Washington, Seattle, WA
WALTER A. HUNT, NIAAA, Rockville, MD
JOSEPH P. HUSTON, University of Dusseldorf, Dusseldorf, Germany
CHRIS E. JOHANSON, Addiction Research Center, Baltimore, MD
HAROLD KALANT, University of Toronto, Toronto, Ontario, Canada
G. JEAN KANT, Walter Reed Army Institute of Research, Washington, DC
KATHLEEN M. KANTAK, Boston University, Boston, MA
ABBA J. KASTIN, Veterans Administration Medical Center, New Orleans, LA
GEORGE F. KOOB, Research Institute of Scripps Clinic, La Jolla, CA
CONAN KORNETSKY, Boston University Medical Center, Boston, MA
J. DAVID LEANDER, Lilly Research Laboratories, Indianapolis, IN
ALLEN S. LEVINE, Veterans Administration Medical Center, Minneapolis, MN
WILLIAM J. McBRIDE, Indiana University School of Medicine, Indianapolis, IN
DONALD E. McMILLAN, University of Arkansas for Medical Sciences, Little Rock, AR
H. MATTHIES, Medical Academy of Magdeburg, Magdeburg, Germany
JACK H. MENDELSON, McLean Hospital, Belmont, MA
FATHY S. MESSIHA, University of North Dakota, Grand Forks, ND
LAURENCE R. MEYERSON, Marion Merrell Dow, Inc., Kansas City, MO
LAWRENCE D. MIDDAUGH, Medical University of South Carolina, Charleston, SC
ROBERT D. MYERS, East Carolina University School of Medicine, Greenville, NC
KIM T. NG, LaTrobe University, Bundoora, Victoria, Australia
JAAK PANKSEPP, Bowling Green State University, Bowling Green, OH
JOHN A. ROSECRANS, Medical College of Virginia, Richmond, VA
HERMAN H. SAMSON, Bowman Grey School of Medicine, Winston-Salem, NC
PAUL R. SANBERG, University of South Florida, Tampa, FL
DAVID S. SEGAL, University of California School of Medicine, La Jolla, CA
PHIL J. SKOLNICK, National Institutes of Health, Bethesda, MD
DEREK VAN DER KOOY, University of Toronto, Toronto, Ontario, Canada
JEANNE M. WEHNER, University of Colorado at Boulder, Boulder, CO
J. C. WINTER, State University of New York School of Medicine, Buffalo, NY
ALICE M. YOUNG, Wayne State University, Detroit, MI
IAN S. ZAGON, M. S. Hershey Medical Center, Hershey, PA

PHARMACOLOGY BIOCHEMISTRY AND BEHAVIOR

Editorial Offices:
Matthew J. Wayner
Division of Life Sciences, The University of Texas at San Antonio, San Antonio, TX 78285

Production Editor:
Sara Beth Morrone
Pergamon Press, Tarrytown, NY 10591-5153

Publishing, Subscription, and Advertising Offices:
Pergamon Press Inc., 660 White Plains Road, Tarrytown, NY 10591-5153, USA, INTERNET "PPI@PERGAMON.COM" and Pergamon Press Ltd., Headington Hill Hall, Oxford OX3 0BW, England

Published Monthly
Annual institutional subscription rate (1993): £785 (US$1256)
Sterling prices are definitive. US dollar prices are quoted for convenience only and are subject to exchange rate fluctuation. Prices include postage and insurance and are subject to change without notice.

Pharmacology Biochemistry and Behavior, Vol. 44, pp. III–VIII, 1993
Printed in the U.S.A. All rights reserved.

0091-3057/93 $6.00 + .00
Copyright © 1993 Pergamon Press Ltd.

SUBJECT INDEX

AA and ANA rats, 127
Acatalasemic mice, 547
Acetaldehyde, 547
Acetylcholine, 425, 615
Acetylcholinesterase, 339
Acetylcholinesterase inhibition, 689
Acquisition, 419
ACTH(4-9) analogue ORG2766, 565
ACTH/MSH(4-9) analog, 447
Activity, 221
Activity assessment, 167
Adaptation, 375
Addiction, 735
Adenosine analogs, 113
Adenosine receptors, 199
Adrenocorticotropic hormone, 533
Aerosol, 891
Age, 805
Aggression, 821
Aggressive behavior, 237, 519
Aging, 17, 87, 475, 577, 703
Akathisia, 181
Alcohol, 133, 307, 403
Alcohol-induced hypothermia, 307
Alcoholism, 951
Alcohol preference, 127
α_2-adrenergic, 777
α_1-adrenoceptors, 519
α_2-adrenoceptor(s), 1, 475, 519
α-melanocyte-stimulating hormone, 533
α_1-receptor, 381
α_2-receptor, 381
α-site, 349
Alprenolol, 851
Alzheimer's disease, 37, 491
Ambulation, 627
Amino acids, 87
Aminooxyacetic acid, 63
Amperozide, 27
Amphetamine, 27, 77, 199, 241, 245, 287, 397, 481, 735
Amygdala, 425
Amylin, 577
Anabolic steroids, 959
Analgesia, 1, 45, 153
Anesthesia, 145
Anesthetized conspecific, 313
Angiotensin, 985
Anhedonia, 181
Animal model(s), 463, 491
Anorexia, 77, 577, 595
Anterior hypothalamus, 533
Anterior pituitary gland, 755
Anterograde amnesia, 145
Anticholinergic compounds, 615
Anticholinesterase, 689
Anticonvulsant mechanism, 709
Anticonvulsants, 615
Antidepressants, 519
Antiemetic, 745
Antinociception, 433, 643
Antiparkinsonian drugs, 615
Anxiety, 127, 153, 241, 433, 471, 509, 633
Anxiogenic stimuli, 463
Apomorphine, 601, 741
Arousal, 393
AT-1 and AT-2 receptors, 623
Atropine, 287
Atypical neuroleptic, 181
Autoradiography, 877
Autoreceptor, 601
Autoshaping, 877, 959
Aversion, 119
Avoidance, 233
Avoidance learning, 451

Behavior, 661, 665
Behavioral observation, 167
Benzodiazepine receptor, 783
Benzodiazepine(s), 433, 471, 633
β-adrenoceptors, 869
β-blockers, 611
β-carboline(s), 633, 951
β-casomorphins, 227
β-CCE, 633
β-funaltrexamine, 497
Bicuculline methiodide, 943
Bimodal antinociception, 365
Blood glucose, 217
Blood pressure, 573, 623
BMY 14802, 349
Body temperature, 717
Body weight, 959
Bombesin scratch test, 45
Bradycardia, 1
Brain, 63
Brain energy metabolism, 491
Brain injury, 297
Brain regions, 63
Brain-stimulation reward, 425
Buspirone, 633
Butorphanol, 1
Butorphanol dependence, 497

Caerulein, 509
Caffeine, 199, 287, 393, 457
Calcium channel(s), 17, 99, 661
Calcium channel antagonist, 827
Cannabinoid, 745
Carbon dioxide, 633
Carbon monoxide, 387
Cardiac pacemaker, 869
Catalase, 547
Catecholamines, 71, 615, 791, 869
Cathinone, 657
Caudate putamen, 87, 157
CCK receptors, 509
CCK-4, 509
Cellular/dispositional tolerance, 717
Cerebellum, 297
Cerebral cortex, 237, 267
CGRP, 577
CGS 10746B, 661
Chlordiazepoxide, 717
Cholecystokinin, 249
Choline, 587
Choline acetyltransferase, 491
Cholinergic receptors, 199
Cholinergic regulation, 913
Cholinergic system, 587
Cholinesterase inhibitor(s), 615, 769
Chronic, 51, 375
Chronic administration, 181, 587
Chronic treatment, 827
Cigarette, 387
Cigarette smoking, 891
Circular platform, 877
Classic conditioning, 965
Clonic convulsion, 727
Clonidine, 777, 821
Clorgyline, 321
Clozapine, 181, 741
Cocaine reinforcement, 471
Cocaine withdrawal, 253
Cocaine, 27, 161, 191, 199, 221, 281, 365, 481, 651, 661, 907
Coffee consumption, 573
Cold and immobilization stress, 339
COLD mice, 501
Conceptual and acoustic acquisition, 393
Conditioned fear stress, 371
Conditioned place preference, 191, 245
Conditioned response, 275
Conditioned taste aversion(s), 249, 263, 985
Consolidation, 419
Continuous cocaine, 971
Continuous recognition memory, 419
Convulsions, 113, 615
Corpus striatum, 751
Cortex, 157
Corticotropin-releasing factor, 375, 755
Cortisol, 527
Cotinine, 387
CRF, 925
CRF receptors, 755
Cross-tolerance, 981
CTL response, 275
Cyclohexyladenosine, 113

d-amphetamine, 167, 751
D_1 and D_2 receptors, 167
Defense, 673
Defensive behavior, 433
Defensive withdrawal, 925
Delayed nonmatching, 411
Deprenyl, 321
Devazepide, 509
Development, 763, 975
Developmental, 403
Dextrofenfluramine, 989
Diabetes, 837
Diabetes mellitus, 577
Diazepam, 267, 287, 313, 463
Diet selection, 919
Discriminative stimulus effects, 907
Disinhibition, 181
Dissociative anesthesia, 1
Distribution, 9
Dog, 181
Dopamine, 87, 227, 425, 487, 565, 601, 605, 661, 791, 843
Dopamine antagonists, 167
Dopamine D_1 antagonist, 429
Dopamine D_2 receptor, 865
Dopamine metabolism, 615
Dopamine receptors, 821, 907
Dopaminergic system, 365
Dorsal immobility response, 157, 329
Dorsal striatum, 329
DPAG, 119
D_1 receptor, 843
D_2 receptor(s), 487, 627, 843
D_3 receptor, 487
Drinking, 77
DRRD, 181
Drug, 745
Drug abuse, 959
Drug antagonists, 791
Drug discrimination, 349, 481, 661, 769, 851
Drug discrimination learning, 249
Drug reinforcement, 191
DuP996, 37
Dynorphine A 1-8, 329
Dynorphine A 1-17, 329
Dynorphine A 2-8, 329
Dynorphine A 2-17, 329

8-OH-DPAT, 357, 777, 851
Elevated plus-maze, 119, 127, 241, 463
Elimination rates, 307
Emotional reactivity, 783
Environment, 141
Epilepsy, 113
Epileptogenesis, 425
Ergometry, 527
Escapable and inescapable foot-shock, 869
Escape, 119, 233, 673
Ethanol, 241, 263, 313, 403, 501, 547, 791, 931, 943, 981
Ethanol dependence, 943
Ethanol oxidation, 547
Ethosuximide, 975
Excitatory amino acid receptor, 727
Excitatory amino acids, 539
Exploration, 783
Extinction, 959
Extrapyramidal symptoms, 181

Fasting, 71
Fear, 433
Feeding, 51, 77, 595, 605, 777, 919, 989
Feeding behavior, 217
Female, 281
Fenfluramine, 595, 931
Fetal Alcohol Syndrome, 307
FG7142, 333
Fischer 344 rat, 919
5-aminovaleric acid, 107
5-HIAA, 371
5-HT, 457, 555
5-HT_1, 161
5-HT_2, 161
5-HT_3, 161
5-HT_3 antagonist, 387
5-HTP, 457
5-HT_{1A} receptor(s), 253, 357
5-HT_2 receptors, 457
5-hydroxytryptamine, 107
5-hydroxytryptophan, 357
5,7-DHT, 457
Fixed-ratio discrimination, 815
Flumazenil, 581, 857
Flumazenil-precipitated abstinence, 857
Flunarizine, 99
Fluoxetine, 931
Flurothyl, 63
Folic acid, 703
Folinic acid, 703
Food consumption, 107
Food hoarding, 565
Food intake, 577, 919
Foot-shock stress, 371
Forced swim, 925
Freezing behavior, 371
Frontal cortex, 565

GABA, 63, 333, 943
$GABA_A$, 267
GABAergic receptors, 133
$GABA_A$ receptors, 237
GABA turnover, 63
γ-rays, 809
Gender differences, 233
Generalization, 249
Genetics, 133
Genotype, 821
Gepirone, 313
Gerbil, 17
Globus pallidus, 157
Glutamate, 245, 539
GM1 ganglioside, 565
Grooming, 627
Guanidinoethanesulphonic acid, 107
Guinea pig, 925

Habituation, 463
Hallucinogens, 865
Haloperidol, 157, 181, 233, 735, 741
Haloperidol-sensitive, 349
Harmane, 951
Head-twitch response, 457
Heart rate, 527
Height, 463
Heroin, 191, 735
HI-6, 689
[^{3}H]MK-801 binding, 683
HOT mice, 501
Hot plate, 9
Housing conditions, 141
[^{3}H]SCH 23390 binding, 683
[^{3}H]Spiroperidol binding, 683
Human(s), 387, 527
Hyperactivity, 397
Hyperbaric oxygen, 357
Hypercapnia, 1
Hyperlocomotion, 227
Hyperphagia, 77
Hyperthermia, 533
Hypotension, 1
Hypothalamic-pituitary-adrenal axis, 665
Hypothalamus, 837
Hypothermia, 357
Hypoxemia, 1

Ibotenic acid, 877
ICI-169,369, 797
ICI-170,809, 797
Impulsivity, 393
Inbred rats, 919
Infant learning, 403
Infantile stimulation, 783
Inhibitory avoidance, 447
Intensification of morphine physical dependence, 939
Interaction, 777
Interictal activity, 709
Intermittent cocaine, 971
Intrathecal, 9
Intrathecal injection, 439
Isolation, 519, 925
Isoproterenol, 623
Isradipine, 661

Juvenile rats, 763

Kainate-type glutamate receptor, 727
κ-opioids, 77
Ketamine, 539
Ketanserin, 161
Kindling, 113

Latent inhibition, 751
Lateral hypothalamus, 217
L-β-methylamino-alanine, 727
Lead, 221
Learned tolerance, 717
Learning, 287, 433, 877
Lesion, 877
Lethality, 343
Lever press, 959
Lewis rat, 919
L-5-hydroxytryptophan, 989
L-glutamic acid diethyl ester, 539
LHSS, 901
Linear locomotion, 429
Linopirdine, 37
Locomotion, 791, 865
Locomotor activity, 27, 107, 127, 167, 199, 547, 959
Locus coeruleus, 297
Long-lasting upregulation by morphine of NMDA receptors, 939
Long-lasting upregulation by naloxone of NMDA receptors, 939
Lorazepam, 633
Losartan, 623
L-tryptophan, 651
Luteinizing hormone, 837
LY 171555-induced hypermotility, 683

MAO-A, 321
MAO-B, 321
Marijuana, 745
MDA, 965

MDL 72222, 161, 661
Medial prefrontal cortex, 371
Membrane-protein interactions, 133
Memory, 37, 145, 287, 433, 509, 877
Memory deficit, 805
Metal, 221
Methamphetamine, 87
Methylmercury, 555
Methylscopolamine, 815
Methylxanthines, 457
Methysergide, 161, 411
Mg^{++}-ATPase, 339
Mice, 63, 233, 281, 451, 457, 519, 627, 805
Microdialysis, 27, 87
Microiontophoresis, 217
Milk, 403
Mineralocorticosteroid receptor antagonist, 447
Minipump, 971
Minocycline, 397
MK-801, 245, 349, 727
MK-801 repeated treatment, 683
Modified open field, 127
Monoamine oxidase, 321
Mood, 387, 891
Morphine, 643, 919
Morris water maze, 827
Motor activity, 397
Motor control, 605
Motor cortex, 709
Motor depression, 627
Motor impairment, 981
Mouse, 439
Movement disorders, 321
μ- and δ-opioid receptors, 497
Muscarinic receptor(s), 769, 913
Muscimol, 107

N-0434, 865
Na^+,K^+-ATPase, 339
N-allylnormetazocine, 349
Naloxone, 119, 329, 381, 763
Naltrexone, 45
Naltrexone and quaternary naltrexone, 275
Naltrindole, 497
NAN-190, 357, 851
Nandrolone decanoate, 959
Narcosis, 547
Neonatal, 901
Neonatal rats, 643
Neurohumor receptors, 755
Neuroleptic, 181
Neurotoxicity, 87
Neurotransmitter, 17
Nicotine, 51, 199, 217, 387, 657, 689, 735, 891, 913
Nicotine withdrawal, 51
Nictitating membrane, 965
NIK-247, 769
Nimodipine, 827
[Nle^4,D-Phe^7]-α-MSH, 533
NMDA, 539
NMDA complex, 365
NMDA receptor, 153
NMDA receptor antagonist, 9
NMDA-type glutamate receptor, 727
Nonassociative learning, 965
Non-NMDA-type glutamate receptor, 727
Noradrenaline, 381, 475, 519
Noradrenergic system, 587
Nordiazepam, 857
Nordiazepam pharmacokinetics, 857
Nordiazepam physical dependence, 857
Norepinephrine, 297, 791, 837
Novelty-induced hypoalgesia, 381
Novelty stress, 791
Novelty-suppressed feeding, 475
NPY, 71
Nucleus accumbens, 27, 157, 605, 751, 951

Ondansetron, 387
Ontogenetic development, 581
Open field, 475
Operant, 403
Operant behavior, 191, 809, 815
Opiates, 191
Opioid(s), 1, 119, 763, 919
Opioid antagonist, 45
Opioid agonist, 45
Opioid drugs, 349
Opioid receptor blockers, 275
Opioid system, 365
Organophosphate, 343, 689
Organophosphorus compounds, 615
Oxime, 689
Oxiracetam, 451
Oxotremorine, 611, 689, 913

Pain, 665
Panic, 673
Parental behavior, 763
Parkinsonism, 321
Paroxetine, 457
Parvalbumin immunohistochemistry, 877
Passive avoidance learning, 145
Pavlovian conditioning, 433, 965
p-chlorophenylalanine, 411
p-CPA, 457
PD 123319, 623
Penicillin, 709
Pentobarbital, 981
Pentoxifylline, 457
Pentylenetetrazol, 581
Performance, 287, 815
Perinatal flumazenil (Ro 15-1788), 783
Perseveration, 735
Personality, 393
PGs, 555
Phencyclidine, 349, 419
Phenoxybenzamine, 791
Phenylethylamine, 241
Pheromone, 281
Physical stress, 573
Physostigmine, 343, 451, 689, 805
Picrotoxin, 975
Pigeon, 481
Pilocarpine, 439
Pimozide, 791, 901
Pindolol, 357, 851
Place conditioning, 595
Plasma renin activity, 623
Play behavior, 763
P/NP rats, 657
Position discrimination, 475
Postictal inhibition, 113
Postsynaptic neuron, 457
Potentiated flight, 673
Precipitated withdrawal, 497
Pregnancy, 63
Prenatal behavior, 843
Prenatal exposure to morphine, 939
Prenatal exposure to naloxone, 939
Preoptic area, 533
Proglumide, 509
Progressive ratio, 161, 651
Propofol, 145
Psychological stress, 527
Psychomotor stimulants, 191
Puberty, 281
Pyridostigmine, 343

Quinpirole, 487, 843
Quisqualate/AMPA-type glutamate receptor, 727
Quisqualic acid, 877

Rabbit, 965
Radial arm maze, 735
Radial arm tunnel maze, 877
Radial maze, 509
Rapid tolerance, 981
Rat(s), 27, 77, 167, 227, 253, 365, 381, 403, 411, 429, 447, 475, 533, 661, 709, 769, 797, 809, 865, 877, 907, 943, 959, 971, 975, 981, 985
Rat cerebrum and cerebellum, 339
Rat fetus, 843
Reactivation, 689
Rearing, 429, 627, 865
Receptor autoradiography, 17
Receptor binding, 45
Reciprocal hindlimb scratching, 439
Recognition, 393
Recovery, 565
Reinforcement, 127, 245, 735, 891
Reinforcer, 403
REM, 797
Repeated acquisition, 809
Respiration, 633
Retention, 419
Reward, 245, 901
Reward system, 951
Rhesus monkey, 633
Ro 15-4513, 943
Rolipram, 397
Roman high- and low-avoidance rats, 783
Rotarod, 717
RU 24213, 627
Runway, 191

Saliva, 527
Satiation, 77
Satiety, 77
Schedule-controlled behavior, 375
Schering 23390, 791
Schizophrenia, 741
SCH23390, 429, 843
Scopolamine, 425, 509, 735, 815, 913
Second messengers, 17
Sedation, 153
Seizures, 63, 333, 581, 975
Selected lines, 501
Self-administration, 141, 161, 191, 403, 651
Sensitivity, 307, 709
Sensitization, 77, 253, 627, 965
Sensorimotor cortex, 297
Sensory, 891
Serotonergic, 777
Serotonergic system, 411
Serotonin, 51, 71, 161, 371, 387, 595, 651, 931
Serotonin$_2$ antagonists, 797
Serotonin release, 989
Sertraline, 51
Sex behavior, 837

Sex differences, 313, 763
Sexual behavior, 913
Short-term memory, 419
6-OHDA, 901
6,7-dinitroquinoxaline-2,3-dione, 727
SK&F38393, 843
SK&F83566, 429
Sleep, 797
Smoke exposure, 387
Smoking, 51, 527
Snakes, 321
Soman, 343, 615, 689
Spatial delayed alternation, 565
Spatial learning, 37, 447, 491, 703, 827
Spatial reversal, 475
Spontaneous alternation, 703
Spontaneous motor activity, 657
Sprague-Dawley rats, 931
Squirrel monkeys, 349, 815
Staircase maze, 587
Startle, 741
Stereotypy, 167, 429, 865
Strain, 805
Streptozotocin, 491
Stress, 237, 267, 287, 375, 755, 869
Stress-induced analgesia, 433
Striatum, 605
Subcutaneous, 777
Substace P (1-7), 439
Substance P antagonist, 439
Substance P antiserum, 439
Substantia nigra, 113, 333
Substantia nigra pars compacta, 157
Sucrose solution, 931
Sufentanil aerosol, 141
Sulpiride, 843
Superior colliculus, 333
Supersensitization, 487
Suppository, 745
Sustained-release pellets, 827
Swiss-Webster mice, 673
Synergy, 777

Tacrine, 805
Taurine, 107, 263
Telemetry, 689
Temperature gradient, 501
Tetrahydroaminoacridine (THA), 769
Tetramethylammonium, 217
Theobromine, 457
Theophylline, 457
Thermal stimulus, 643
Thermoregulation, 501, 689
Thigmotaxis, 429, 463, 865
3-aminopropanesulphonic acid, 107
3-PPP, 481
Thymopentin, 665
Thyrotropin-releasing hormone, 611
Tianeptine, 989
Tiletamine, 1
Time-related changes, 339
Tobacco, 387
Tolerance, 77, 253, 307, 375, 627
Toxogonin, 689
Tremors, 611
Trimethyltin, 555
Tryptophan, 371
2-amino-5-phosphonopentanoic acid, 727

U-50,488H, 77
Ultrasonic vocalizations, 313
Unconditioned reflex, 965
Unilateral labyrinthectomy, 99

Vestibular compensation, 99
Vinconate, 17
Visual cortex, 709
Voluntary ethanol consumption, 547
Voluntary ethanol drinking, 127

Water deprivation, 985
Water intake, 623
Water maze, 287
Weanling rats, 901
Weight, 51
Working memory, 411, 805

Xenopus skin mucus, 321
Xylazine, 1

Yawning, 487, 601
Yohimbine, 673, 791, 851

Zolazepam, 1

PHARMACOLOGY BIOCHEMISTRY & BEHAVIOR

VOLUME 44 1993

AUTHOR INDEX

Ahlers, S. T., 375
Ally, A., 555
Alpert, C., 397
Amit, Z., 263, 547, 791
Ammassari-Teule, M., 451
Anderson, S. M., 755
Andrews, J. S., 877
Apfelbaum, J. L., 387
Aragon, C. M. G., 263, 547
Araki, T., 17
Arenas, M. C., 233
Aricioglu, F., 939
Arneric, S. P., 37

Badiani, A., 77
Barbera, N., 665
Barthalmus, G. T., 321
Bassani, J. W. M., 869
Bassani, R. A., 869
Battaglia, M., 451
Bättig, K., 573, 783
Beck, B., 357
Becker, L. A., 925
Behm, F. M., 891
Berge, O.-G., 9
Bernardini, R., 665
Bitrán, M., 981
Blackburn, T. P., 797
Blanchard, D. C., 313, 673
Blanchard, R. J., 313, 673
Blass, E. M., 643
Blick, D. W., 343
Blokland, A., 491
Bocco, G., 403
Bohuon, C., 71
Böö, É., 9
Borowski, T. B., 425
Bosy, T. Z., 133
Botez, M. I., 703
Bowyer, J. F., 87
Boyce, S., 153
Boyeson, M. G., 297
Brahiti, F., 217
Brandão, M. L., 119
Bratton, G. R., 221
Briggs, S. J., 51
Brioni, J. D., 37
Brophy, P. D., 425
Bruhwyler, J., 181
Bruno, J. P., 901
Brus, R., 487
Buckley, M. J., 37
Buist, R., 555

Cai, B., 519
Cantarella, G., 665
Capacio, B. R., 615
Carr, D. B., 763
Castellano, C., 451
Chaouloff, F., 989
Chen, C.-J., 281
Chiarenza, A., 665
Chleide, E., 181
Chotro, M. G., 403
Chow, S. Y.-M., 985
Christopher, N. C., 51
Clark, D., 167
Clement, J. G., 689
Cook, G., 153
Cook, L. A., 615
Coscina, D. V., 777
Cottrell, G. A., 157, 429
Cox, B., 797
Crabbe, J. C., 501
Cramer, C. P., 643
Crawshaw, L. I., 501
Cuadra, G. R., 237
Curzon, P., 37

Dakis, M., 419
Dall'Olio, R., 683
Daly, J. W., 199
Darlington, C. L., 99
Davies, A. M., 595
Dawes, P., 381
De Brabander, J. M., 565
De Bruin, J. P. C., 565
Decker, M. W., 37
DeHaven-Hudkins, D. L., 45
Demissie, S., 275
de Rooy, E. C. H., 777
De Souza, E. B., 755
Djali, S., 357
Dominguez, H. D., 403
Drago, F., 665
Driscoll, P., 783
Duran, E., 307

Echevarria, E., 797
Edling-Owens, J., 745
Ellinwood, Jr., E. H., 253, 971
Elsohly, M. A., 745
Engelman, K., 745
Ergene, E., 951
Escorihuela, R. M., 783
Esseling, K., 709
Ettenberg, A., 191

Fadden, C., 837
Fanelli, R. J., 827
Fanselow, M. S., 643
Fenton, L. H., 357
Fernández-Teruel, A., 783
Fisher, H., 931
Flood, J. F., 577
Fregley, M. J., 623
Fuchs, I., 397
Fukuda, T., 611
Furmidge, L., 167

Gandolfi, O., 683
Garity, D., 901
Geist, T. D., 191
Geyer, M. A., 741
Ghanta, V. K., 275
Ghi, P., 587
Giacobini, E., 727
Gilchrist, D. P. D., 99
Glasky, A. J., 805
Goeders, N. E., 471
Gordon, T. L., 657
Gosnell, B. A., 919
Gough, B., 87
Grade, C. M., 297
Graham, A., 763
Grecksch, G., 227
Grover, C. A., 221
Grupp, L. A., 985
Guerin, G. F., 471
Gupta, U., 393

Hails, R., 837
Han, P. C., 63
Hardin, L. K., 321
Harro, J., 509
Harvey, J. A., 965
Heaton, J. P. W., 601
Helmstetter, F. J., 433
Hennessy, M. B., 925
Herberg, L. J., 113
Himmi, T., 217
Hiramoto, N. S., 275
Hiramoto, R. N., 275
Ho, I. K., 497
Höfer, I., 573
Holson, R. R., 87
Holtzman, S. G., 349
Horita, A., 365
Horn, E., 709
Hoskins, B., 497
Houbeau, G., 181
Hsueh, C.-M., 275

Inoue, T., 371
Ishida, Y., 17
Iurato, M. P., 665
Iverson, S. D., 153
Iwata, S.-I., 611

Jacobson, K. A., 199
Jacquot, C., 71
Jaffe, J. H., 141
Jäkälä, P., 411
Järbe, T. U. C., 481
Jaw, S. P., 497
Jodogne, C., 627
Jolles, J., 491
Josephy, M., 447
Joyal, C. C., 539, 703
Joyner, C., 253, 971

Kaddis, F. G., 245
Kafetzopoulos, E., 751
Kalant, H., 981
Kameyama, T., 907
Kanai, Y., 17
Kant, G. J., 287, 755
Kato, H., 17
Kellogg, C. K., 267
Kerenyi, S. Z., 343
Kesner, R. P., 419
Kimura, K., 27
King, G. R., 253, 971
Kinsley, C. H., 763
Kirschbaum, C., 527
Kisara, K., 439
Kitatani, T., 457
Klimek, V., 821
Kling, A., 805
Knickerbocker, D., 533
Koechling, U. M., 791
Kofman, O., 397
Kogure, K., 17
Kokkinidis, L., 425
Komer, K. M., 45
Konstandi, M., 751
Kontopoulos, A. N., 339
Koob, G. F., 943
Kopman, J. A., 249
Korpi, E. R., 127
Kostrzewa, R. M., 487
Koyama, T., 371
Koyuncuoglu, H., 939
Krahn, D. D., 919
Krechman, J., 943
Krobert, K. A., 297
Kubová, H., 581

Lacosta, S., 161, 651
Lalonde, R., 539, 703
Lang, C. M., 1
Langkrär, J., 527
Lapin, I. P., 241
Larach, D. R., 1
Layer, R. T., 245
Lee, T. H., 253, 971
Lempereur, L., 665
Levin, E. D., 51, 891
Lichtor, J. L., 387
Liljequist, R., 107
Lipe, G. W., 87

Loh, E. A., 735
Lu, M.-R., 931

Mackenzie-Taylor, D. R., 717
Magee, L. K., 673
Mahan, K., 605
Manome, Y., 439
Mareš, P., 581, 975
Marten, P., 877
Martin, C., 167
Martin, W. R., 857
Matsumoto, K., 519
Matsunaga, Y., 439
Matsuoka, Y., 727
Mattes, R. D., 745
Matthies, H., 227
Mavunkel, B. J., 45
McGregor, A., 651
McMonagle-Strucko, K., 827
McNulty, M. A., 471
Meehan, S. M., 657
Melchior, C. L., 805
Mele, P. C., 809
Melton, P. M., 249
Menard, J., 463
Mercier, M., 181
Meyer, M. E., 157, 329, 429, 865, 959
Mičlaniková, D., 975
Miller, S. A., 343
Mills, P., 555
Minkin, D. M., 959
Mintz, M., 113
Moerschbaecher, J. M., 815
Molina, J. C., 403
Molina, V. A., 237
Molinengo, L., 587
Moody, C. A., 843
Mori, E., 907
Morley, J. E., 577
Morley, P. M. K., 577
Morse, W. H., 633
Motta, V., 119
Murphy, M. R., 343

Naritoku, D., 727
Näsström, J., 9
Nation, J. R., 221
Newport, G. D., 87
Nikodijević, O., 199
Nikulina, E. M., 821
Nomikos, G. G., 27
Nomoto, M., 611

O'Connor, C. S., 501
Ohno, M., 769
Ohta, H., 519
Oitzl, M. S., 447
Oreland, L., 509
Orosco, M., 71
Orsetti, M., 587
Orsini, J. C., 217

Pages, N., 71
Päivärinta, P., 127
Pakarinen, E. D., 815
Palazzesi, S., 451
Pang, R., 145
Parker, L. A., 595
Parra, A., 233
Pastel, R. H., 797
Pastorello, B., 587
Peris, J., 333
Perrin, J., 217
Peterson, J. A., 45
Petry, N., 167
Plech, A., 487
Pleger, L., 267
Potter, T. J., 429, 865

Quartermaine, D., 145

Rabin, R. A., 851
Raible, L. H., 533
Rakonczay, Z., 727
Rassnick, S., 943
Rathouská, J., 581
Rech, R. H., 717
Retana-Marquez, S., 913
Reuhl, K., 555
Reyes, E., 307
Riekkinen, Jr., P., 411
Riekkinen, Sr., P., 411
Riley, A. L., 249
Ritzmann, R. F., 805
Roberts, D. C. S., 161, 651, 735
Robinson, M. B., 357
Robinson, S. R., 843
Rochford, J., 381
Rodgers, R. J., 673
Rodriguez-Zafra, M., 267
Rogers, C. F., 275
Rogers, S., 605
Rokyta, R., 975
Romano, A. G., 965
Rose, I. C., 113
Rose, J. E., 51, 891
Rosman, E., 145
Rouch, C., 71
Rowland, N. E., 623
Royan, C., 463
Rupniak, N. M. J., 153
Rüthrich, H.-L., 227
Rykaczewska, M., 487
Rzeszotarski, W. J., 45

Sakurada, S., 439
Sakurada, T., 439
Salamone, J. D., 605
Salander, M. K., 375
Salazar, E. D., 913
Sansone, M., 451
Scapagnini, U., 665
Schechter, M. D., 657, 661
Scherer, P. J., 297
Schoener, E. P., 951
Scott, J. D., 333
Sharpe, L. G., 141
Shaw, L. M., 745
Shibuya, T., 457
Shih, T.-M., 615
Shuto, K., 17
Sidhu, K. S., 901
Simón, V. M., 233
Sirvió, J., 411
Slikker, Jr., W., 87
Sloan, J. W., 857
Smith, A. M., 735
Smith, P. F., 99
Smolen, A., 63
Smolen, T. N., 63
Smotherman, W. P., 843
Soong, S.-J., 275
Spear, L. P., 843
Spear, N. E., 403
Spriujt, B. M., 447
Stahlberg, M., 9
Steckler, T., 877
Steger, R. W., 837
Stellar, J. R., 901
Stewart, J., 77, 381
Strasburger, C. J., 527
Sugimachi, K., 769
Svensson, T. H., 27
Swerdlow, N. R., 741
Switzer, S. H., 307

Tan-No, K., 439
Tanila, H., 475
Taukulis, H. K., 313, 673
Taylor, M. K., 267
Teeple, E. S., 633
Thompson, D., 321
Tirelli, E., 627
Tobeña, A., 783
Tong, Z.-Y., 167
Tortella, F. C., 797
Treit, D., 463
Tsakiris, S., 339
Turndorf, H., 145
Turner, J. D., 877
Tye, S., 153

Ueki, S., 769
Ukai, M., 907
Ushijima, I., 365

Vandenbergh, G., 281
Van Eden, C. G., 565
van Embden, S., 397
van Haaren, F., 959
Van Hartesveldt, C., 157, 429
Varrin, S. J., 601
Velazquez-Moctezuma, J., 913
Velíšek, L., 975
Velišková, J., 975
Vorlíček, J., 581

Waegeneer, N., 181
Wagner, G. C., 931
Wala, E. P., 857
Wallace, L. J., 245
Waltrip, L. A., 133
Watanabe, H., 519
Watanabe, Y., 457
Weber, R., 709
Wehner, J. M., 133
Weinhold, L. L., 141
Wellman, J. C., 763
Wettstein, J. G., 633
Wilson, R. P., 1
Winsauer, P. J., 809
Winter, J. C., 851

Yamamoto, T., 769
Yamashita, I., 371
Yao, O., 71
Yudko, E. B., 313

Zacny, J. P., 387
Zagon, I. S., 1
Zaragoza, J. G., 387